

44. (New) A method of treating congestive heart failure comprising administering an effective amount of a pharmaceutical composition according to claim 31 to a patient in need thereof.

AI 45. (New) A method of treating congestive heart failure comprising administering an effective amount of a pharmaceutical composition according to claim 32 to a patient in need thereof.

46. (New) A method of treating congestive heart failure comprising administering an effective amount of a pharmaceutical composition according to claim 33 to a patient in need thereof.--

REMARKS

Following entry of the present amendment Claims 24-46 will be pending. These claims represent amended versions of Claims 1-23, respectively and correspond substantially to the previous claims with the following revisions:

Claim 24 adds $-(CH_2)_nCOOMe$ and $-(CH_2)_nCOOEt$ to the recitation of Z from originally filed claim 1. Support in the specification for these esters is found in Schemes I through X. In particular, examples describing the preparation of compounds 2, 8, 11, 16, 19, 24, 27, 31, 34, 41, 44, 50, 53, 59, 62, 69, 72, 79, and 82 exemplify the esters claimed.

Also in claim 24, the original term "direct link" was replaced with the term "bond". In addition, the disubstituted aromatic rings named as 'phenyl, thienyl, furanyl, pyrrolyl, and indolyl' were renamed as 'benzene, thiophene, furan, pyrrole, and indole'. The generic structure makes clear that two substituents L and Y are attached to A, so the term 'divalent' was removed as redundant. Dependent claims 25-28 were modified from the original claims 2-5 to be consistent with claim 24.

The recitation of B in claim 24 clarifies language from original claim 1 intended to limit ring A to rings having not more than one heteroatom. The original language could be construed to exclude carbocyclic rings, which was inconsistent with the invention and the specification. Support for carbocyclic rings is found in Schemes II-X and in the corresponding examples throughout the specification.

The recitations for m, n, and q in claim 24 were modified from the language in original claim 1 by introducing the word “each” to clarify that, for example, the chain lengths of Y and L can be the same or different. A person of ordinary skill in the art would appreciate that the lengths of these linking groups can be varied independently. Support for this is found in, for example, Scheme VI: compounds 44-46 are viewed as being comprised of $L = (CH_2)_q$, wherein $q = 0$, and $Y = (CH_2)_q$, wherein $q = 1$. The term ‘0-4’ in original claim 1 was also changed to ‘0 to 4’ for internal consistency. Dependent claims 25-27 were modified from original claims 2-4 to be consistent with claim 24 and to remove redundant recitations for various groups that were not further limited in the dependent claims.

The recitations for Y, Z, L, J, J^1 , J^2 and R^3 - R^{20} in claim 24 were rephrased from language in original claim 1 in order to conform to standard Markush language. Note that the substantive modification to the recitation of Z is explained above.

Recitations for R^1 and R^2 in claim 24 were modified from those in original claim 1 to conform to standard Markush language, and also to clarify the original language describing J^3 - J^8 that may have appeared indefinite due to the phrase “or at least one of J^3 and J^4 ...” .

New claim 28 simplifies a cumbersome recitation of B (in claim 1 it was originally recited as CR^1R^2 , and R^1 and R^2 were defined as H) to read “each B is CH_2 ”. This does not change what B represented originally; it is supported in the specification in Schemes II-X, for example compounds 11-13.

The language in claims 34-38 is intended to clarify language in originally presented claims 11-15.

Claim 39 corresponds to original claim 16 and differs only by the deletion of the phrase “of a compound”, which was redundant.

Claim 41 corresponds to claim 18, and differs only in language introduced to conform to standard Markush language.

Claims 43-46 were modified from original claims 20-23 only by inserting the word “heart” which had been omitted in naming ‘congestive heart failure’. This term was originally in claim 42 and is supported throughout the specification, particularly on page 3 at lines 3-28.

Applicants have attempted to provide a new claim set with substantially equivalent scope to that of the claim set originally filed and believe that no new matter is presented. Accordingly, Applicants request entry of the present amendment and favorable consideration.

Rejection of Claims 1-2 under 35 USC § 102(b)

Claim 1 and 2 stand rejected as allegedly anticipated by JP 47030696; by Holy, et al. *Coll. Czech. Chem. Comm.*, **50**:262 (1985); by Saito, et al., *Tetrahedron Lett.* (1970) No. 56 page 4863-4866; and by Okumura, et al., *J. Med. Chem.*, **17**(8):846-855 (1974).

In view of the amended claims, reciting only those embodiments of the invention wherein A is other than a bond, Applicants respectfully submit that this rejection is now moot.

Accordingly, Applicants respectfully request that this rejection be withdrawn.

Rejection of Claims 1-23 under 35 USC § 112, second paragraph

Claims 1-23 stand rejected under 35 USC §112, second paragraph as allegedly being indefinite and failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The Examiner has raised several points (see pages 2 and 3 of Paper No.2) which are addressed below in the order in which each was presented.

1. In view of the amended claims and more clear recitation for "B", indicating that the rings can also be carbocyclic; Applicants request that this aspect of the rejection be withdrawn.

2. In view of the amended claims and more clear recitation for "J³" and "J⁴"; Applicants request that this aspect of the rejection be withdrawn.

3, 4. In view of the absence of the terms "prodrug" and "isomers" in the new claims, Applicants request that these aspects of the rejection be withdrawn.

5. Applicants have provided new claims 34-38, corresponding substantially to originally filed claims 11-15. The claims are revised to recite that the patient "in need

thereof" is a patient having a disease or condition modulated by elevated levels of adenylyl cyclase activity. Support for this amendment can be found throughout the specification in which a variety of diseases or conditions modulated by elevated adenylyl cyclase activity are discussed (see, for example, the Field of the Invention and the Background Art, pages 1-5).

6. The term "selected from" has been replaced by "caused by" as suggested by the Examiner. Applicants appreciate the Examiner's helpful assistance.

7. The term "congestive failure" has been revised to read "congestive heart failure". Again, Applicants appreciate the Examiner's assistance with pointing out this typographical omission.

In view of the above, Applicants believe all points raised by the Examiner under 35 USC § 112, second paragraph have been addressed. Accordingly, Applicants respectfully request that this rejection be withdrawn.

Rejection of Claims 1-23 under 35 USC § 112, first paragraph

Claims 1-23 stand rejected under 35 USC §112, first paragraph as allegedly lacking enablement for solvates, hydrates or general isomers.

Applicants acknowledge and appreciate the Examiner's note that the specification is enabling for forms other than the "solvates or hydrates or general isomers." Without conceding the propriety of the rejection and reserving the right to pursue claims directed to the canceled subject matter, Applicants provide new claims that do recite the offending terms. Accordingly, Applicants believe the rejection is now moot and respectfully request that it be withdrawn.

Objection to the Specification

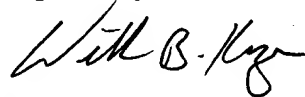
The Examiner has objected to the specification, noting that it does not convey the structure of the compounds, and suggests that the formula of Claim 1 be provided along with the definition for Z (see page 4 of Paper No. 2).

Applicants respectfully request clarification. The "Summary of the Invention" on pages 6-9 provides the structure of formula I, along with a complete recitation of the variables. See page 8, line 4 for "Z". Additionally, under "Preferred Embodiments" on pages 16-19, the structure of formula I is again provided along with a description of Z (see page 18, line 7). Should the specification on file with the Office not contain these pages, Applicants would appreciate notification. Alternatively, Applicants request that the objection to the specification be withdrawn.

CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration and a Notice of Allowance. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5015.

Respectfully submitted,



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